ATCO NEWSLETTER

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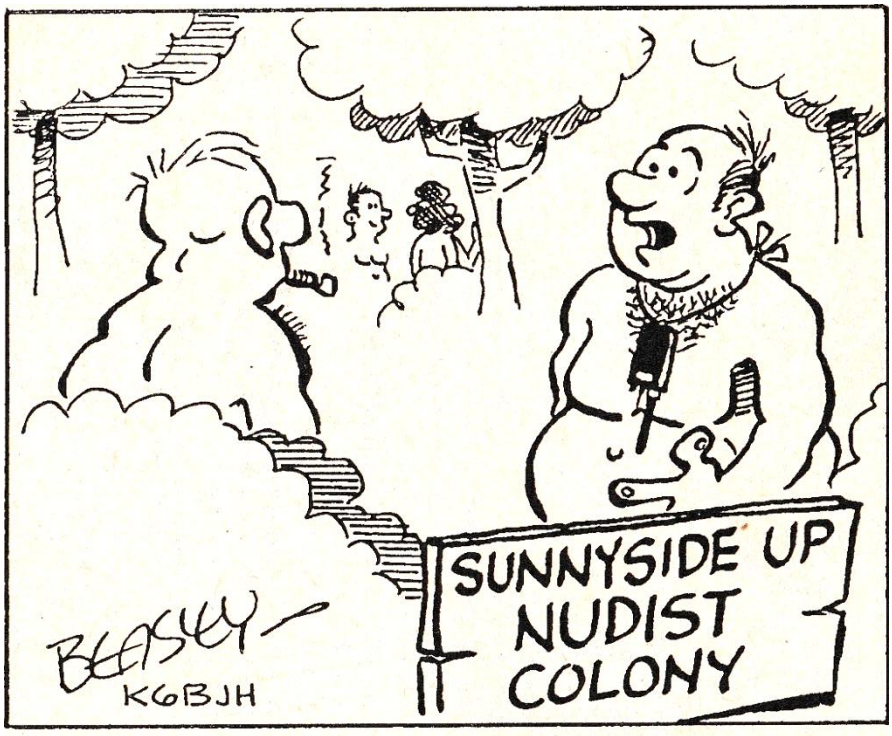
ATCO SPOTLIGHT TOPIC



HAVE YOU FIGURED OUT A GOOD PLACE TO HANG YOUR HANDHELD?

ACTIVITIES ... from my Workbench

It's Newsletter time again! Now, what can I think of to say that I've not said before? Can't complain about the grass, snow, family chores or Ham equipment … so I'll move on.

The ATCO repeater seems to be in good order but there's one thing that's bugging me. Every now and then the DVB-T output goes to a blank screen. It's still outputting power but no video. That's the bad news. The good news is that if I remotely reset the transmitter by removing AC power for at least 5 minutes, it comes back up working ok. It will normally stay that way for about a couple months or so before the same fault occurs. The problem is whether it happens often enough to take the time to go there and replace the transmitter with another one I have. Compounding that is the fact the backup HiDes transmitter also has a "flakey" issue. It works ok now but since I sent it back to HiDes some time ago and found no problem, I don't trust it any more. So, I could be replacing an intermittent issue with a not-so-intermittent issue. Therefore, at this time I'm putting up with it. Nuf said!

We DO have another issue I've noticed lately. The DVB-T signal has been reported to be weak on some occasions. The guys North of here say they usually don't see the signal when they felt they should. So, I enlisted the help of Mike Collis, WA6SVT, when he was staying with me during the recent Hamvention. We went to the repeater armed with Mike's Tiny SA spectrum analyzer and a VNA to look at the DVB-T antenna. We found both the DVB-T and the 427 analog antennas were ok but the analog antenna had a better match at 423 MHz so we swapped them. That puts the DVB-T antenna on absolute top of the mounting framework instead of on an internal framework mount. Since the 423 MHz DVB-T signal is more important, we decided that an antenna that was the highest and out in the open away from other antennas was the best choice. That turned out to be good because the ATCO 423 signal is now seen regularly both up north and in Dayton.

The VersaTune vs VersaTune-Mini receiver design process has a rocky past. We started work on VersaTune about 2021. Bob, N8NT, agreed to do the software. Then, Bob moved to Vermont but said he'd still work on the software. His work was slow because of new home renovations. Also, he had to brush up on Raspberry Pi software. Bob has a full-time job and can't spend a lot of time on software. I did hardware. Needed new circuit board made. In meantime COVID hit us. Four years passed by. In 2025 we finally resolved software issues. I checked inventory before ordering parts for production build. Checked with tuner vendor. They told me they obsoleted tuner module with no replacement 2 years earlier. They never informed us to make last time buy. It's now fall 2025. Searched for possible replacement without success. Later that fall I found out about a HDHomerun module that is in production and used for antenna TV broadcast for TV reception. Contacted the vendor for more details. By chance we ended up talking to the owner of the business who was interested in our operation. After a long discussion he said his product could easily fit our needs with a firmware modification and the addition of a custom APP. He said the European units he has are configured for DVB-T as is. He sent us 2 units with his custom firmware to try for a sensitivity check. They work great. He then sent us their product development guide (28 pages) that gave us the IC operation parameters. We needed custom software so we decided to see if AI could help. We fed the guide text into AI as a reference and asked AI to create software for a video display of the incoming RF signal. Voila!!! It worked the first time and I did not have to write any code to support it. Now we have a product ready for production as soon as manufacturer is ready with stock for us to purchase.

That's our VersaTune-Mini good luck story so far. We are now waiting for the manufacturer response for how much this will cost and how to ship to us so it's not a done deal yet. I'll consider it complete when we receive final pricing and a shipping commitment so my fingers are crossed. That's it. It's been a long 5 years but I now believe it's going to be worth it! See more detail and pictures in another article later in this Newsletter.
…WA8RMC

THE INTERNATIONAL ATV QSO PARTY IS FAST APPROACHING

Peter Cossins is letting us know the annual ATV QSO party is coming. We have gotten together in August for a number of years now to see how many people we can talk to and see. It's an international event initiated by Peter, VK3BFG, in Melbourne, Australia. If for no other reason, it's great to be able to hear and see someone from another country. I remember, a few years back we were able to see another ATVer grilling steaks live on his charcoal grill in his Australia backyard. I'm the contact person for the eastern portion of the USA. On Friday night August 28 about 8 PM EDT I'll take check-ins on ZOOM and relay them to Peter in Melbourne. Next, Jim Andrews in Boulder, Colo. will pick up the activity then pass it on to the ATN guys in California. Later the baton will go to the European guys. Peter Emailed me with his message On 4/20/2026 9:42 PM, pcossins@bigpond.com

He writes:
Hello Art ...I hope you are well and I see you are still flying the flag!
The Melbourne DATV Repeater is still active with a regular Tuesday night Net plus other activity over the week. The Wireless Institute of Australia (WIA ... equivalent to our ARRL) broadcast with real video content is transmitted twice on Sunday, there is a Friday broadcast from the Astronomical Society of Victoria. And the Eastern and Mountain Districts Radio Club will be back on air with monthly lectures very soon. Contacts are more usually made cross band ... one station with video, the other on the 2-meter liaison frequency. Stations are experimenting with DVB-S, DVB-S2 and DVB-T . I am planning to include a narrow band option as well.

On the home front, I have a new computer (Windows 11) and I want to get my DATV Express working again.
…Regards Peter VK3BFG

SILENT KEY, K8DMR

Dr. Ronald Joseph Fredricks (Fedorowicz) P.E., age 84 of Grand Rapids (Jenison), passed away peacefully on April 17, 2026, surrounded by the love of his family. Ron was born August 17, 1941, in Detroit, Michigan, to Alphonse Joseph and Jane Francis (Dukarski) Fedorowicz, of Polish and Lithuanian heritage. As a young boy, Ron endured a life-altering illness, contracting Pott's disease, which left him bedridden in a body cast for nearly two years. Doctors feared he might never walk again. In hope and faith, his parents sought the prayers of Capuchin friar Blessed Fr. Solanus Casey, who assured them that Ron would be healed. Through what the family has always regarded as a grace-filled intercession, Ron recovered fully – going on to run, play, and live a full and active life. This experience left a profound and lasting impact on his faith and the life he would lead. Following his recovery, Ron moved with his family to Saginaw, Michigan, where he was joined by his beloved younger brother, Richard Fedorowicz, his loyal companion and lifelong friend. Ron was active in the Boy Scouts and developed an early passion for amateur radio, earning his license and call sign, K8DMR, as a young teenager – a pursuit that remained a lifelong joy. Ron graduated from Saginaw St. Mary's High School in 1959, where he excelled academically and also enjoyed participating in athletics, including baseball, football, and basketball. He shared his musical talents as well, performing Everly Brothers songs in the school talent show. He went on to attend Michigan State University, graduating magna cum laude with a Master's Degree in Electrical Engineering in 1964, and later earned his Ph.D. in electrical engineering from the University of Michigan in 1970. A brilliant engineer with a deep love of learning and teaching, Ron served as a professor at Michigan State University, Western Michigan University, Grand Valley State University, and Calvin University, inspiring countless students over the years.

Ron built an accomplished career in aerospace and electrical engineering, working with organizations including Lear Siegler, Magnavox, Smiths Aerospace, Boeing, and General Electric. His work in the instrument division at Lear Siegler contributed to the development of the "Loran-C" navigation system, which played a pivotal role in its adoption by the U.S. Coast Guard and the Federal Aviation Administration for civil aviation. He also published

research on the “Optimization of Functional Differential Systems” and “Airborne Omega” performance testing. In recognition of his contributions, Ron received numerous professional honors, including awards from the Institute of Electrical and Electronics Engineers (IEEE), in which he was nationally involved. In addition, Ron was named the 1982 “Outstanding Engineer of the Year” by the Michigan Society of Professional Engineers. Ron remained deeply involved in the amateur radio community throughout his life and was an active member of the Grand Rapids Amateur Radio Club. In 2024, he was honored as “West Michigan Ham of the Year,” a fitting recognition of his lifelong passion and contributions to the field.

In the 1970s, Ron discovered a love for downhill skiing, which ultimately led him to meet the love of his life, Mary Iris Fredricks (Breimayer). The two met through the Lincoln Ski Club (later the Greater Grand Rapids Ski Club), where they spent years skiing together. They were married on May 7, 1977, beginning a loving marriage that spanned more than 48 years.

Ron was a devoted husband and a loving father to Kristina Marie Rexford and Daniel Joseph Fredricks. In 1984, Ron transitioned to independent consulting, working with Midwest and bicoastal corporations. This move gave him greater flexibility to spend time with his family – a choice he made intentionally. Though highly successful in his field, he always placed his responsibilities as a husband and father above all else.

The Fredricks family shared a deep love of skiing, spending countless days on the slopes – from the molehills of Michigan, including backyard runs of “Mt. Fredricks,” to the mountains of the western United States and Canada. Ron also played a key role in helping establish the West Catholic High School ski team in the mid-1990s, fostering a love of the sport in future generations.

A man of deep and abiding faith, Ron enthusiastically participated in the life of the Church. He served as a lector and member of the choir at Holy Spirit Parish in Grand Rapids, and more recently at Holy Redeemer Parish in Jenison. His faith, rooted in both early suffering and lifelong devotion, was evident in the quiet and steady way he lived and loved.

He was his children’s greatest supporter, always present, always encouraging, and always leading with love. Ron is survived by his beloved wife, Mary (Breimayer) Fredricks; children Kristina Marie Rexford and Daniel Joseph Fredricks; grandchildren Allyson and Eric Larson, Adam and Jenny Kolb, and Anna Kolb; and great-grandchildren Natalie, Nora, and Oaken Larson. He is also survived by his brother, Richard (Brenda) Fedorowicz; sisters-in-law Barbara Klein, Brenda Fedorowicz, and Peggy Breimayer; and many cherished nieces and nephews. He will also be deeply missed by countless extended family members and dear friends – most especially his “little brother,” Rick Clemence.

Ron’s life was marked by faith, perseverance, intellect, and love. From a childhood marked by suffering and miraculous recovery to a life of achievement, devotion, and quiet sacrifice, he leaves behind a legacy that will endure in all who knew him. His love will live on forever in the hearts of those he touched.

‘ATSC 1.0 MUST GO’

Opinion By Phil Kurz

While broadcasters await a rulemaking on a 1.0 sunset, someone else outside the industry seems to concur.

Sunsetting the original digital TV standard on a certain date (or dates) is essential to the future success of the broadcast industry, ATSC 3.0 proponents say. While 3.0 channel-sharing has served its purpose, neither broadcasters nor the public can truly realize the full benefit of NextGen TV without an end to 1.0. In other words, as things stand, broadcast spectrum cannot be used to its full potential.

Laurence Zimmerman, a wireless industry veteran, agrees. On April 15 as the broadcast industry was traveling to Las Vegas for its annual gathering, Zimmerman’s company, Landover Saturn 5 LLC, filed a petition with the FCC seeking a rulemaking “to permit the repurposing of UHF Channels 28-36 (554-608 MHz) into a contiguous nationwide block of low-band spectrum for flexible 5G and future 6G use.”
In the petition, Landover proposes serving as a “neutral Sponsor” coordinating broadcaster participation, managing spectrum clearing, repacking broadcasters below channel 28 and “implementing the monetization” of the repurposed spectrum—for a cut of the proceeds. The company says it can generate more than twice as much money for the federal government –some $15 billion—as the FCC’s Auction 1001.

Whether or not Landover’s proposal has merit is for the commission to decide. In the end, it may derail the efforts of U.S. broadcasters to make better use of their spectrum via 3.0. Ironically, it would enable 5G and 6G wireless providers to leverage the spectral efficiency of 3.0 to clear the desired 50 MHz block of TV spectrum and as a consequence inhibit broadcasters’ full ability to develop a new, recurring revenue stream as wireless data service providers.

Regardless of the petition’s datacasting implications, however, the proposal identifies ATSC 3.0 channel sharing as one of two key lynchpins (the other being relocation) for clearing the spectrum without forcing broadcasters to give up their local voice. As the petition puts it: “Broadcasters retain their market presence and program distribution rights by transitioning to shared ATSC 3.0 capacity below Channel 28, at no cost to Broadcasters.

“This allows them to continue delivering their full broadcast signal while simultaneously aligning with industry-wide movement toward streaming distribution. In other words, Broadcasters will convert under-monetized spectrum into immediate enterprise value without forfeiting brand identity, local programming obligations, retransmission eligibility or the growing opportunities that ATSC 3.0 offers for data, multicast, and digital-first delivery.”

NextGen TV proponents have told the commission for some time that continued, indefinite 1.0 and 3.0 transmission is a path to nowhere. As a Gray Media senior executive has put it, the current approach delivers the “worst of both worlds” for broadcasters and viewers alike.

Perhaps the Landover petition will underscore for FCC Commissioners why there’s little room to move forward—whether that’s for licensed broadcasters or a third-party disrupter with a new point of view—when the vast majority of TV spectrum in a market is devoted to transmitting via 1.0.

While individual broadcasters may or may not favor Landover’s petition, Sinclair’s NAB message and the petitioners appear to have something in common: “ATSC 1.0 Must Go!”

LIMITED EMERGENCY USE OF 70 CM BAND BY AST

FCC Approves Limited Emergency Use of 70 cm Band by AST SpaceMobile Satellites Outside the US
On April 21, 2026, the Federal Communications Commission (FCC) granted AST SpaceMobile limited authorization when not over the United States to use five 50-kHz channels in the 430–440 MHz secondary amateur band for emergency Telemetry, Tracking, and Control (TT&C) operations for its planned satellite constellation (DA-26-391 Docket No. 25-201). The authorization applies only for communication with five specified earth stations, each located well outside of the United States and for which the foreign administration with jurisdiction also must separately authorize the communications.

More than 2,500 comments were filed during the proceeding including filings from ARRL and other member societies of the International Amateur Radio Union (IARU), AMSAT, and individual radio amateurs worldwide.

After considering the filed comments, the FCC narrowed the requested authorization to emergency TT&C only and further provided that:

- Use of these frequencies is permitted only in emergencies when no other spectrum is available
- Each emergency event is limited to no more than 24 hours
- Transmissions are restricted to five specific center frequencies (430.5, 432.3, 434.1, 435.9, and 439.5 MHz), each with no more than 50 kHz bandwidth.

In an April 29, 2026 statement, the IARU expressed concern with the FCC's use of Article 4.4 of the ITU Radio Regulations, which allows administrations to authorize non-standard frequency use under certain conditions. The IARU stated that other frequency bands allocated for satellite TT&C should have been used instead of amateur spectrum and encouraged amateurs to report any interference to their national regulators.

ARRL filed comments (see ARRL News) in July (PDF) and August 2025 (PDF) opposing the application, arguing that:

- The request represented an unprecedented use of secondary amateur spectrum for an unallocated use by a large commercial satellite constellation
- Such operations could cause harmful interference, particularly to amateur satellites in the 435–438 MHz sub band
- The FCC should avoid authorizing non-allocated uses that could impact primary allocations for amateur services in other countries

While the FCC ultimately granted the authorization, it imposed the above significant limitations in response to these concerns that reduce the likelihood of interference.

In the US, reports of suspected interference to amateur spectrum can be shared with the ARRL Regulatory Information Manager, email reginfo@arrl.org.

ARRL will oppose any similar unallocated uses of spectrum used by amateurs that might cause harmful interference to amateur services and in particular will monitor this situation.

COURT UPHOLDS SOME LG ATSC 3.0 INFRINGEMENT PATENTS

From TVtech SmartBrief May 5, 2026 tvt@smartbrief.com By Phil Kurz

The court also vacated some claims against LG Electronics and sent the case back to the district court

A federal court of appeals last week upheld a jury's finding that LG Electronics infringed on certain Constellation Designs patents in its NextGen TVs and affirmed the jury's $1.68 million award for past damages as well as a $6.75 per TV royalty for future set sales.

The U.S. Court of Appeals for the Second Circuit issued its ruling April 28 after considering the findings of a jury trial before Judge J. Rodney Gilstrap of the U.S. District Court for the Eastern District of Texas. That court found LG willfully infringed upon certain Constellation Designs patents.

The appeals court affirmed some of the lower court's findings, vacated others related to "optimization claims" and sent the case back to the original district court to re-evaluate the case with the optimization claims removed or reconsidered under the guidance of the appeals court.

Regarding penalties, the appeals court found LG willfully infringed on Constellation's patents. Frequently, willful infringement can lead to greater damages, but the appeals court made no such recommendation.
LG Electronics announced it would stop selling televisions with NextGen TV support in September 2023, following its loss of the patent dispute with Constellation Designs. Currently, Sony, Samsung, Hisense, Panasonic, TCL and RCA offer NextGen TVs in the United States. Vendors offering NextGen TV set-top boxes include ZapperBox, ADTH, Zinwell, SiliconDust and GTMedia offer NextGen TV set-top boxes or dongles.

An LG spokesman said the company does not comment on "such legal matters." As of this writing, Constellation Designs has not responded to a request for comment. Other requests for comment are out but have not yet received a response.

The ATSC 3 Signing Authority said last month that nearly 40 NextGen TV models from Hisense, Panasonic, Samsung, Sony and TDL, account for the "vast majority" of the 18.5 million A3SA-enabled TVs sold to date.

"We have to keep in mind that this happens in the C.E. space," said Anne Schelle, managing director of the Pearl TV business organization representing many of the country's largest broadcast groups. "That said, the other thing to note is these patents do expire in 2028."

"From our perspective, the market from the development side of NextGen is moving along," she said. "We are still continuing to work on the converter box program, and if you look at the overall trend, you can't blow this out of proportion."

"When you look at the timing of a Report and Order [advancing the transition from 1.0 to 3.0], there is plenty of time to get devices out there regardless of whatever the outcome is."
The appeals court ruling is available online.

NEXTGEN TV CONVERTER BOX PROGRAM PROGRESS

By Tom Butts

ATSC 3.0 advocacy group showcased prototype boxes at last month's NAB Show

At the NAB Show in Las Vegas last month, Pearl TV, the consortium of broadcasters, manufacturers and industry advocates showcased prototypes of new converter boxes that would allow consumers to upgrade to ATSC 3.0 (aka NextGen TV) without having to purchase a new TV or one of the more expensive converter/DVR boxes currently available.

TV Tech Content Director Tom Butts recently discussed the status of the new campaign and reaction at NAB Show with Pearl TV Managing Director Anne Schelle. Here is an edited transcript.

TV Tech: *Can you give us an update on what Pearl and the ATSC were showing in terms of NextGen TV advances at the NAB Show?*

Anne Schelle: Pearl was focused on the converter box program and meeting with SOC companies that we invited to come to the show, as well as some of the current box makers and others that would be part of the ecosystem. The FCC also had an opportunity to come by and learn about the program. So, there were great conversations, and it's just continuing to move the program along in terms of the mechanics, with the special pricing conversations, with the ecosystem that would be involved with making the box, the testing, certification, all of those business parts of the program.

You may like

- Broadcasters Launch Initiative for Low-Cost NextGen TV Converter Boxes
- Long-Awaited ATSC 3.0 Rulemaking Overshadows NAB Show Expectations
- Survey Shows Strong Consumer Interest in NextGen TV Converter Boxes
-

TVT: *What's the biggest challenge right now that you face? Is it time or technology?*

AS: We're waiting on a signal from the FCC, which we're hopeful is coming soon. We were also having conversations about just updating the whole [3.0] system, the transmission vendors and everybody that's involved in selling equipment to support a transition to the boxes themselves. And the more time lags on this, resources get reallocated, investments get reallocated. So, we've been expressing the urgency to the FCC.

TVT: *Will you need government support to bring it to a sub-$60 price level?*

AS: We're following the NTIA model [the basis for the ATSC 1.0 converter box program established in the 2000s], where we're establishing specifications, testing rigor around elements that don't exist today for other devices—specifically around sensitivity and receptibility—and then the program would allow for a certification logo that makes us a very distinct category of a box.

Converter box prototypes from ADTH, Skyworth and Zinwell were shown in the ATSC booth at the 2026 NAB Show. (Image credit: Phil Kurz)

Given its distinction, part of the program is to go out and broadly negotiate lower building material costs, whether that's in IP or in components, and we've been successful on that route. In essence, we're helping to establish a pre-, lower-cost box, or pre-subsidized in the sense that the industry is doing it, the players (as the component parts), are doing it, knowing that this device is a bridge device. It's very much needed to enable the consumers who can't afford to buy a television to have access to something readily available in the marketplace.

So, by coalescing around a program, we're able to sort of recreate what occurred [with the NTIA program], if you look at that pricing point too, that is based on research that might change over time, and overall rises and seed pricing due to supply chain and other global events. But what we're coming in with is essentially almost lower than the NTIA program did back in the day without a subsidy, the economics being such that we're able to deliver something a consumer would be willing to purchase, which is what our study showed. The other part about our study was what really needs to be on this very affordable box, and how do consumers think about features vs. cost vs. value in over the air.

The professional video industry's #1 source for news, trends and product and tech information. Sign up below. By signing up, you agree to our Terms of services and acknowledge that you have read our Privacy Notice. You also agree to receive marketing emails from us that may include promotions from our trusted partners and sponsors, which you can unsubscribe from at any time.
In terms of government funding, that's not available, so I don't know why we would be asking that.
TVT: *What kind of feedback have you gotten from broadcasters?*
AS: Well, this is broadcast-led, so they're very supportive of this. At the end of the day, we need a signal from the FCC, because consumers will go purchase this box that we've made very affordable if they know that they need to go purchase it. There is no global transition that's ever really happened until there is a transition end date and concurrently an update to standards, so we need that.
We're getting ready for that by developing and answering the question of the affordable device for the consumer that does not want to change out their television and otherwise wants. That's why we did the [Magid] study to see what their willingness would be to go purchase this device and at what price point. And what we heard was overwhelmingly over 81% saying yes, they would purchase and the price points were $60 and below.
What to read next
- A3SA: 'Vast Majority' of 18.5 Million NextGen TV Devices Sold Can Decrypt 3.0 Broadcasts
- NAB Says NextGen TV Rollout Threatened by `Uncertainty', `Half-Measures'
- Triveni Digital Will Show NextGen TV Solutions To Monetize ATSC 3.0
TVT: *So is your goal to have this in place and get it moving as soon as you get the word from the FCC?*
AS: We're developing all the program mechanics. We did all the research, and now we have an understanding of the messaging and how the consumer feels about it. We're working with early development set-top box makers to understand what are the components and what are the feature sets that are doable at these price points, and does that match up with willingness from consumers to buy it? The answer is yes, and that's our specification that was announced.
We have a utilization of the current connected TV umbrella logo. All of these require agreements and mechanisms and processes to be able to onboard a set-top box maker for them to understand what the specifications are, to go through the certification to ultimately get the logo, for that logo to have some teeth to it.
So, we make sure that the logo, if it's misused, can be revoked, and at the same time, that logo is what these set-top box makers would take to the IP holders, as well as the component makers that we've negotiated with to get that favorable pricing for this device category.
So, we're putting in all of the program mechanics and working with three manufacturers [ADTH, Skyworth, and Zinwell] through that process to harden that and ensure that we've got the right systems in place so that once we have the go light, we're able to effectively turn this on. We have not focused fully yet on the go-to-market strategy, other than to say that we do have a website that we currently know works and consumers go to. That would probably be our initial funnel, alongside promotional marketing that the station groups would undertake, but that whole program is really reliant on timelines. Pearl has been focused on helping the industry establish a way to find an affordable device path for consumers.

TVT: *Pearl TV has joined others in asking for a sunset year, a date of 2028, for the top markets, followed by remaining markets by 2030. How would you characterize your conversations with the FCC in terms of this plan… what kind of feedback have you gotten from them, and do you believe that this is going to help them reach a final decision?*
AS: We're looking for something in that range, specifically for a go date, on an update to the receiver rules that could happen, and within three years, the majority of receivers could be upgraded. I think the idea still stands around moving top markets and then looking to smaller markets but the exact timing is really up to the commission.
Pearl has been focused on helping the industry establish a way to find an affordable device path for consumers. We met with the FCC and there's high interest in it that I think helps in terms of getting a favorable rulemaking from the commission.

TVT: *The Consumer Technology Association has been very vocal in their opposition to a tuner mandate. Do you believe their concern is justified? In other words, do you see the possibility of a tuner mandate on the horizon?*
AS: We are asking for a receiver upgrade. I don't think you have a transition without it. And I think every past transition has proved that this is not the first time that the commission has taken that path, and again, globally, I don't know how you move forward without that.
We're in a situation where the marketplace took it as far as it could, and this is what's needed in order to really fully realize a full transition. So that's basically my answer to that.

TVT: *Do you believe retailers have done a good job promoting NextGen TV? Do you think that they'll be ready to market these new boxes?*
AS: Again, when there's a signal for a full transition—just like in the last go round, nobody stepped in to really market until that happened, because you have something to organize around, both retailers, CTA and broadcasters. So, you can't take one without the other. Retailers are pay to play and they're organized around the manufacturers telling them what to do.
So you can't really fault their involvement, yet. You can just look at history, the last DTV transition, the minute it got organized—between a transition end date and upgrade to the receiver requirements—you had everybody step in with some terrific marketing.

TVT: *Will you put these boxes on the market before the FCC makes a decision on the deadline?*
AS: We're working on the development with the three main manufacturers and hoping we can get something out by the end of the year, [but] we are facing some headwinds in regards to the supply chain, and that's no surprise. There's memory shortages out there and price hikes, plastic has gone up 20%.
So, it's a timing question for us because without the volume guarantee, it's hard for us to be able to come out with a box, and so it just depends.
We're agnostic to the chip, to the OS, we really leave that up to the box manufacturer. We just have this price ceiling, and they're working right now to figure that out, and getting pretty creative and looking at lowering memory and using various OS systems that take up less memory. I think you're going to see that in everything going forward for a couple years.

[The initiative] is really similar to NTIA. It's just commercially implemented and commercially executed.

HAMVENTION PRIZE WINNER!

Pictured is Bruce Kobe, K8FIX, ATVer from Tipp City, Ohio, who won a major Hamvention Prize at the end of Hamvention 2026. To his surprise, he stayed for the closing of the Hamvention Sunday Afternoon hoping that he would win one of the minor prizes, but was flabbergasted when the event organizers called his name to pick up his new rig, a new Icom HF transceiver. Bruce re-plumed his desk cabling in order to find a spot to place the transceiver into its new operating position. His Yaesu FT101MP is now playing "second fiddle" to its closest competitor, the major Hamvention prize, an ICOM 7610 v.32!

SECURITY CAMERA ANTI-TAMPER DEVICE

Art,

Here is a photo of one of my cameras that was experiencing false alarms for apparently random times during the day. The hornets decided to use the camera as home base for their developing nest. It might not be patentable, but I think the inclusion of this nest would be an excellent biological anti-tamper device!

Cheers

Dave P. AH2AR

HAMVENTION 2026: ATN/DARA/ATCO ACTIVITIES EXHIBIT

Dave Pelaez AH2AR

This year's Hamvention was a resounding success, culminating with one of our ATV booth exhibitors winning Hamvention's Major prize, an ICOM C-7610 v.32 (See adjoining article). The exhibit included a number of ATV items of interest. The ATV group provided a continuing demo of the Dayton Amateur Radio Association's ATV repeater and a number of various displays featuring 70cm and 23cm ATV DVB-T modes. AH2AR had brought in a working crossband ATV repeater as a live demo that was one of the items featured at the exhibit. Other exhibit display items included ATV digital receivers and transmitters with several table-top links running. WA8RMC, WA6SVT, OE7DBH, K8FIX, KK4LW, KC3AM, KE8DOC, and AH2AR assisted with answering numerous questions from interested Hamvention attendees.

AH2AR brought in a working crossband ATV repeater as a live demo that was one of the items featured at the exhibit. Other exhibit display items included HiDes receivers and transmitters with several table-top links running.

HAMVENTION 2026 FRIDAY NIGHT ATV DINNER

Another year, another Hamvention Friday night dinner, a fantastic event! It was an excellent event and perfect timing to sit back, rest from an exciting but tiring day and enjoy the company with a great dinner. I think the attendance was a record also with about 24 attendees. It helped with the handouts at our display booth and the publicity in the on-line Hamvention program. Prizes were two triband HT's, a Sony PTZ desktop HDMI camera and two multimeters. If you attended you had a 1:4 chance of winning a door prize! We concluded about 9 PM.

OE7DBH Darko Banko at the ATV dinner and also at Hamvention

WA8RMC answered inquiries about preliminary progress he made regarding a project with a U.S. manufacturer for possible modification and use of the current "Homerun" digital receiver box that will be able to serve "double-duty" for ATV. Early measurements indicated that it will provide a 5 dB gain improvement over an HV110 at 2 MHz bandwidth.

Art, WA8RMC discusses the Homerun Receiver during the ATV Dinner

OE7DBH was able to fly in from Austria. He was introduced by WA8RMC at the dinner and also at the ATV Forum on Saturday. Darko works closely with HiDes to test and optimize their hardware for amateur radio use. He publishes technical evaluation reports, such as benchmark performance and sensitivity testing for equipment like the HiDes HV-110 DVB-T receiver. Because HiDes standalone transmitters typically output a very low signal (often around 1 mW to 100 mW), Darko designs and builds custom, high-quality Class A power amplifiers (ranging from 4W to 10W) tailored to boost these specific DVB-T signals. He has been heavily involved in modifying and adapting DVB-T equipment to operate on amateur radio bands, specifically the 70cm (434 MHz), 23cm (1.2 GHz), and 13cm (2.4 GHz) bands.

SENATOR TED CRUZ PRAISES AMATEUR RADIO OPERATORS FOR EMERGENCY PREPAREDNESS

ARRL's nationwide grassroots campaign supporting the bipartisan Amateur Radio Emergency Preparedness Act has generated more than 155,000 letters to members of Congress in support of H.R. 1094 and S. 459. The legislation seeks to ensure that Amateur Radio Operators can install and maintain effective outdoor antennas at residences where private land-use restrictions might otherwise prohibit them, helping communities maintain resilient emergency communications capabilities during disasters.

Senator Ted Cruz (R-TX) released a message praising amateur (ham) radio operators for their vital role in emergency preparedness. He thanked volunteers who step in with tools and skills to reconnect communities when disasters destroy power and cell networks.

ARRL Legislative Committee Chairman and West Gulf Division Director John Robert Stratton, N5AUS, said the continued outreach effort has required "long hours on the ground and an uncountable number of personal meetings with Senators, Representatives, and their staffs" to raise awareness of the importance of Amateur Radio to our country.

"The most recent proof that those efforts have, and are, increasing Congressional support for Amateur Radio is evidenced by the decision of Chairman Cruz to publicly share his personal views on the value and importance of Amateur Radio to the Nation," Stratton said.

ARRL encourages Amateur Radio Operators to participate in our letter writing campaign, located at **www.arrl.org/HOA**, in support of the Amateur Radio Emergency Preparedness Act and to share information about the public service role Amateur Radio plays in communities nationwide.

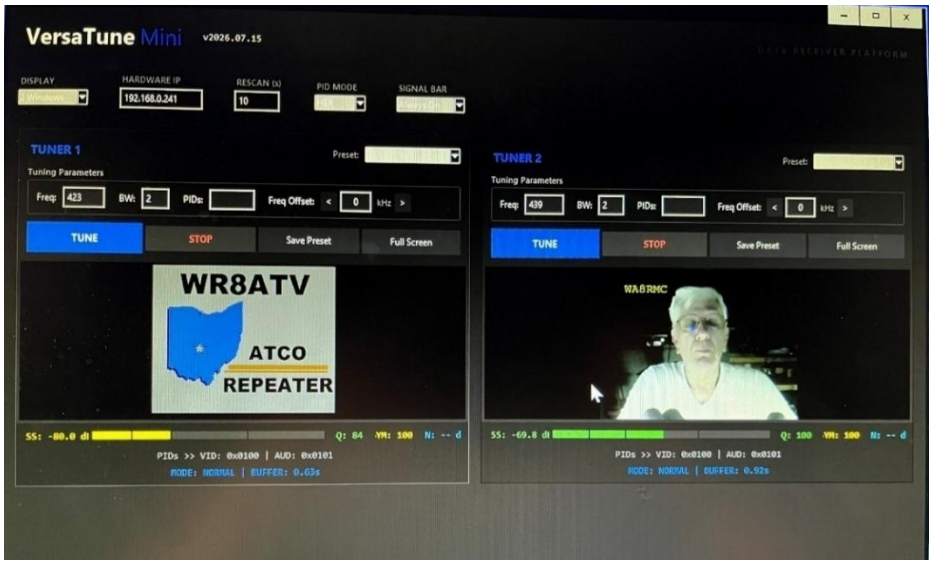
"*VERSATUNE*" UPDATE – HERE COMES VERSATUNE-mini!

VersaTune-Mini progress update. As some of you know, the VersaTune project is dead due to the obsolescence of important parts. In my search for a replacement, I found that a commercial consumer receiver that displays digital television signals in a similar way to what I was working on for VersaTune. A study of its functions revealed that with a software rewrite, it will be functional for DATV use. In addition, the present vendor agreed to work with us with software suggestions to provide us with a product we can sell. The only catch is that it is a "70cm DVB-T only" design. But I believe that's acceptable for our present DATV use.

The commercial product interfaces an antenna for broadcast TV to a consumer television. Connect an antenna to the input with an Ethernet connection on the output to a router or switch and this box arranges the channels into an organized array of commercial programming. This is an unusable arrangement for the DATVer for it does not have composite video/audio cabling. However, it turns out it's much more flexible to use the TV's Ethernet connection for the interface. You can plug in the "VersaTune-Mini anywhere there is an Ethernet connection, not just next to the Hamshack array of products. The DATV monitor must now be a PC instead of a simple video monitor but I don't see that as a disadvantage. Everyone I know has at least one spare computer available as a PC or laptop. Additionally, once connected into the home local WiFi network, it creates an extra channel available on the main smart TV for your DATV signal **(Won't the wife be happy with that?).** With the proper IP connections, it will also be available on the internet.

Main features:

- Show up to 4 simultaneous separate tuner displays in real time so it can monitor the repeater and a separate DATV signal at the same time from one antenna. Selectable one, two, three or four screen display. Each video signal display has its own signal graph under the video display.
- The overall latency is about 1 second or less. Better than most commercial receivers. This is important when rotating antenna for best signal.
- RF input sensitivity down to at least -100 dBm. A bar display shows signal level in 3 colored groups: -105 to -90 weak, -90 to -80 normal, -80 to -20 strong. (AGC action starts at -45 dBm).
- Bandwidth selectable from 1 to 6 MHz. Operation below 1 MHz is possible. This needs testing.
- Frequency selectable from 100 to 450 MHz in 1 MHz steps.
- Signal must be QPSK with selectable video/audio PID or automatic.
- Rescan feature. If signal is lost, it will re-scan at selected time looking for a new signal.



The TV screen shot on the right is the VersaTune-Mini with a 2-tuner configuration. Left picture is direct from the ATCO repeater. Right picture is my PC camera through my DATV-Express transmitter fed into an RF splitter with the incoming repeater signal. Both signals had RF attenuators in line. Notice the left picture is a -80.0 dBm signal while the right one is a -69.8 dBm signal. The latency buffer displays 0.63 sec and 0.92 sec. delay.

…WA8RMC

LEAKING ROOF AT RHODES STATE OFFICE TOWER BUILDING (SOT)

*This is not ATV related but as I've said before, I mix other interesting material into the articles also. It **IS** remotely related to ATV because our ATCO antennas are on this roof just behind the picture below. WA8RMC*

Columbus Dispatch June 27, 2026

A polymer overlay depicting a massive Ohio state flag was placed atop the roof of the Rhodes State Office Tower in downtown Columbus to fix water leaks.

- The overlay sealant cost about $234,000, saving millions compared to an estimated $4M full replacement of the concrete roof.
- The use of the Ohio Burgee design was chosen over a standard gray color and is expected to last over 30 years, the state says.

A repair team has placed a massive Ohio flag on the roof of the 50-year-old Rhodes State Office Tower in downtown Columbus in a cost-saving initiative to stop leaks that also shows state pride and spirit.

Due to its age, the skyscraper's concrete roof had fallen into disrepair and caused water leaks. Replacing it was expected to cost about $4 million, according to the Ohio Department of Administrative Services' Property and Facilities team.

The flag used to seal the roof of the James A. Rhodes State Office Tower in downtown Columbus is now the highest Ohio state flag in Columbus, Ohio.

Unwilling to break the bank, the Department of Administrative Services [DAS] team researched alternatives. What they landed on was a polymer overlay that would seal the roof, costing about $234,000. The alternative helped save millions of dollars on labor, concrete and debris removal, waterproofing and the installation of new concrete on top of the 629-foot, 41-story building.

The state originally planned to use a consistently gray color on the roof but later had the idea to depict the Ohio Burgee, the nickname for the state's unique pennant-style flag with a swallowtail V. Ohio is the only U.S. state whose flag is not rectangular.

The polymer sealant is expected to last over 30 years without fading, and comes right in time for the nation's 250th birthday on July 4.

"I am constantly challenging our team to come up with innovative ideas, and they hit this one out of the park — or should I say onto the roof," DAS Director Kathleen C. Madden said in a prepared news release. "This is a creative and cost-effective way to keep the Rhodes Tower in top shape for years to come, while proudly displaying its Ohio spirit."

The architectural firm responsible for the project, Schooley-Caldwell, drafted the designs for the Ohio flag pattern for free in collaboration with local muralist Mandi Caskey.

DEVELOPERS CHOOSE CLAUDE OVER GEMINI IN 2026

*Here's possibly another non-ATV article….but is it??? While working to create good software for my soon-to-be introduced VersaTune-Mini DATV receiver, I was introduced to the wonders of "**VIBE**" coding. Vibe coding is the creation of software by describing the desired function to an Artificial Intelligence (AI) agent which then it creates all of the software coding for you. After learning the proper questions to ask, AI created all of the software instructions for me without me having to write a single line of code!!! It even asked me if I'd like to include some added features I hadn't thought of before. **Amazing!** The following details illustrate some of the things you should learn in order to achieve good coding results. So, after all, AI **IS** involved with DATV! Read on. PS: I used Gemini antigravity with a Claude model for my VersaTune-Mini software work…WA8RMC*

Claude and Gemini stand out as two prominent AI systems shaping the landscape in 2026, each excelling in distinct areas. According to The AI Productivity Coach, Claude is particularly effective for producing **high-quality, polished written content**, making it well-suited for tasks like drafting detailed reports or professional documents. In contrast, Gemini's **live web search functionality** provides a strong advantage for real-time research, allowing users to access up-to-date information and perform in-depth analysis. These strengths highlight the importance of selecting an AI system that aligns with the specific demands of your projects. Explore how Claude and Gemini measure up in areas like **coding support**, **multimodal capabilities**, and **workflow integration**. Learn which system is better equipped for debugging intricate scripts, generating visual content, or streamlining autonomous processes. This feature will help you evaluate which AI system best fits your priorities, whether your focus is on accuracy, adaptability, or enhancing productivity.

Writing and Editing

Key Takeaways :

- **Writing Capabilities:** Claude excels in producing high-quality, polished long-form content, while Gemini is better suited for concise tasks like emails and summaries.
- **Research and Summarizing:** Gemini leads in real-time research with live web search and file analysis, whereas Claude focuses on delivering precise and verified summaries.
- **Coding Assistance:** Claude offers advanced coding support for debugging and complex tasks, while Gemini is more suitable for basic coding needs.
- **Multimodal and Ecosystem Integration:** Gemini supports image and video generation and integrates seamlessly with Google Workspace, while Claude is better for text-based tasks and cross-platform compatibility, including Microsoft Office.
- **Automation and Pricing:** Claude provides robust tools for managing complex workflows, while Gemini offers transparent usage caps. Both tools have free tiers and $20/month pro plans, with higher-tier options available.

For users focused on producing **high-quality written content**, Claude emerges as the stronger option. Its ability to generate consistent, human-like text makes it particularly effective for long-form writing, such as detailed reports, creative projects, or professional documents. Claude's nuanced tone and polished output are well-suited for tasks requiring a sophisticated and professional touch.

Gemini, in contrast, excels in shorter, more concise writing tasks. It is particularly adept at creating emails, summaries, or quick notes. However, its tone can sometimes lack the depth and subtlety that Claude consistently delivers. If your priority is **detailed, polished writing**, Claude is the superior choice. For quick, straightforward tasks, Gemini offers a more efficient solution.

Research and Summarizing

When it comes to research capabilities, Gemini takes the lead. Equipped with live web search functionality and the ability to analyze external files, Gemini can generate comprehensive reports complete with citations. This makes it an invaluable tool for academic research, professional analysis, or any task requiring real-time data.

Claude, while more cautious in its approach, focuses on delivering **verified and concise summaries**. It avoids speculative or unverified information, making it a reliable choice for users seeking quick, accurate overviews. For those requiring **detailed, real-time research**, Gemini is the better option. However, if you value precision and reliability over breadth, Claude is a dependable alternative.

Coding Assistance

Both Claude and Gemini offer coding support, but their strengths cater to different levels of expertise. Claude demonstrates a **deeper understanding of code logic**, making it particularly useful for debugging complex scripts and handling advanced developer tasks. Its dedicated tools, such as Claude Code, provide additional functionality for programmers seeking robust support.

Gemini, while competent in identifying and fixing basic coding errors, lacks the advanced logic comprehension that Claude offers. It is better suited for simpler coding tasks or users who need occasional assistance. For developers requiring a **sophisticated coding assistant**, Claude is the clear winner.

Multimodal Capabilities

In the realm of multimodal AI, Gemini stands out as the more versatile tool. It supports **native image and video generation**, as well as multimedia analysis, making it an excellent choice for content creators, marketers and designers. Its ability to seamlessly integrate text, images and videos offers a comprehensive solution for visual content creation.

Claude, by comparison, does not include image or video generation features. However, it can analyze and interpret multimedia documents, which may suffice for users focused on **text-based tasks**. If your work involves creating or analyzing visual content, Gemini is the better choice. For text-centric workflows, Claude remains a reliable option.

Ecosystem and Daily Use

The ability to integrate seamlessly into existing workflows is a critical factor when choosing an AI tool. Gemini offers **native integration with Google Workspace**, including Docs, Sheets and Slides. This makes it an ideal choice for users who rely heavily on Google’s ecosystem for their daily tasks.

Claude, on the other hand, supports **Office file creation**, such as PowerPoint and Excel and offers broader cross-platform compatibility. This makes it a more flexible option for users working across multiple platforms or those embedded in Microsoft Office environments. Your choice will depend on your preferred tools, Gemini is ideal for Google Workspace users, while Claude is better suited for those using Microsoft Office or mixed ecosystems.

Agentic and Autonomous Features

For managing complex workflows and multi-step tasks, Claude offers advanced tools like **Co-work, Dispatch and Code**. These features enable it to handle intricate workflows with minimal user intervention, making it a powerful choice for users seeking automation and efficiency.

Gemini, while offering its **antigravity feature** aimed at developers, is less widely adopted for general-purpose automation. If your work involves managing **autonomous workflows** or handling complex, multi-step processes, Claude provides a more comprehensive solution.

Limitations and Pricing

Both tools come with limitations and pricing structures that may influence your decision. Claude imposes **stricter session limits during peak hours**, which can be a drawback for heavy users. Gemini, by contrast, offers **transparent daily caps**, allowing users to plan their usage more effectively.

In terms of pricing, both tools provide free tiers and $20/month pro plans, with higher-tier options available for advanced users. Your choice will depend on how these limitations align with your specific usage patterns.

Making the Right Choice

Selecting between Claude and Gemini ultimately depends on your unique needs and priorities. Claude excels in **writing, coding, agentic workflows**, and cross-platform compatibility, making it the ideal choice for text-heavy, professional tasks. Gemini shines in **research, visual content creation**, and integration within Google's ecosystem, making it a strong contender for users focused on multimedia projects and real-time data analysis. While both tools have distinct strengths, they can complement each other effectively. By understanding your specific requirements, you can use the capabilities of these AI tools to achieve your goals with greater efficiency and precision.

Media Credit: The AI Productivity Coach

PS: For a real good comparison between Claude and Gemini, check out the UTUBE video by Control clicking on the Credit heading above.

…WA8RMC

NEXTGEN TV - ESSENTIAL INVESTMENT IN FREE LOCAL TELEVISION

By Tom Butts

Association says 'modern technology' will ensure the survival of local broadcasting. As broadcasters await a decision from the FCC to shut down the current ATSC 1.0 broadcast format, the industry's leading lobbyist is reiterating its support for ATSC 3.0, (aka "NextGen TV"). Since last October, when the FCC voted on a proposal to determine a date when to sunset ATSC 1.0, debate has swirled around the timing of the shutdown and what consumer protections will be in place to ensure viewers don't lose access to free over the air broadcasting. The commission is expected to announce a final decision by the end of 2026. The NAB, which has promoted NextGen TV as a way for broadcasters to better compete in the increasingly complex TV landscape, told FCC six months ago that continuing uncertainty over the lack of a date is hampering progress.

"The record developed here confirms that the Commission's central task is no longer to debate whether NextGen TV is worth pursuing—stakeholders across the ecosystem recognize that it is—but to decide whether the transition will be allowed to succeed through an orderly, coordinated framework, or instead be stranded indefinitely in a regime of regulatory uncertainty and half-measures, all to the detriment of the viewing public," the NAB said in comments filed with the commission in February. Currently approximately 76% of U.S. households can receive a NextGen TV signal, according to the ATSC. In April, Pearl TV Group, a consortium of broadcasters and tech suppliers, announced the launch of an initiative to develop consumer converter boxes that could retail for under $60.

The association has also launched a campaign to help preserve live sports on free over the air TV, again noting the increased competition from streaming giants.

The ability to access live sports over free TV, competition from Silicon Valley and the very survival of broadcasting were tied together in NAB's latest blog. The association also took aim at viewers who criticize the content protection aspects of ATSC 3.0, with many claiming that certain devices on the market don't carry the necessary software to decode DRM-protected signals.

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"ATSC 3.0 includes security and service-protection mechanisms as part of its technical framework, just as modern communications and entertainment platforms routinely protect their content and distribution systems, the NAB said. "There is an important reason for these protections. Broadcasters invest substantial resources to secure sports, entertainment and other high-value programming. They also invest every day in local journalists, meteorologists, production professionals and the technology needed to keep communities informed and safe."

"Without reasonable safeguards, unauthorized businesses can capture local stations' signals and resell them at scale without permission or compensation," the association added.

NAB also criticized the possibility that the broadcast industry could be saddled with outdated technology, impacting its competitiveness.

"Requiring broadcasters to operate a decades-old standard forever would effectively make free, over-the-air television the only major communications platform that is never permitted to modernize," it said. "That would not protect viewers. Over time, it would leave viewers with an increasingly outdated service while streaming platforms, wireless providers and global technology companies continue to innovate."

ARRL LAUNCHES NATIONWIDE GRASSROOTS CAMPAIGN TO PASS AMATEUR RADIO EMERGENCY PREPAREDNESS ACT

Does your neighborhood prohibit outdoor TV antennas? If it does, you REALLY need to help pass this Bill! I sent in my response. You should too! *It's not too late to enter your call into the list supporting the passage of this bill.*
…WA8RMC

September 18, 2025

ARRL has launched a nationwide grassroots campaign aimed at securing the passage of federal legislation that would grant Amateur Radio Operators the same rights to install antennas on their property as those enjoyed by users of TV antennas, wireless internet, and flagpoles.

The campaign, announced in an ARRL Member Bulletin on September 17, 2025, follows the reintroduction of the *Amateur Radio Emergency Preparedness Act* in February 2025 (see ARRL News 02/07/2025). The bipartisan bills -- H.R.1094 in the House and S.459 in the Senate -- are designed to prevent restrictive homeowners' association (HOA) rules that currently prohibit or severely limit the installation of amateur radio antennas, even when such antennas are hidden in trees, placed in attics, mounted on vehicles, or look like flagpoles.

"This legislation is about restoring equal rights to licensed Amateur Radio operators," said ARRL President Rick Roderick. **"These restrictions hinder not only the enjoyment of Amateur Radio, but also its vital role in emergency communication during disasters."**

Public Support Needed for Passage

To advance the legislation, ARRL is calling on its members and all licensees of the US Amateur Radio Service to take action by sending letters to their congressional representatives. Through a dedicated online tool at **https://send-a-letter.org/hoa/**, hams can easily generate and submit pre-drafted letters with a few clicks.

Go to — https://send-a-letter.org/hoa/

— and help us by sending your letters to your Representative and Senators.

ARRL has emphasized that every letter matters. "Your Representative and Senators need to know that the passage of this legislation is important to you."

Send Your Letters Now

Donate and Help Us Pass the Bill!

Support ARRL's advocacy goals with a donation and help us Pass The Bill!

Donate Now: www.arrl.org/PassTheBill

Your support helps ARRL engage legislative leaders to pass this bill and provide the ability of Amateur Radio Operators to install the antennas necessary to serve their restricted land use communities.

Donate Now

Frequently Asked Questions (FAQ) Regarding ARRL's Legislation: H.R.1094, S.459
Who Are The Primary Opponents of Removing The Prohibitions On Amateur Radio?

CAI, the Community Associations Institute, Inc. This national organization, with chapters in every State, is the political voice of home owner associations ("HOA"), HOA management companies, HOA law firms, and developers. It is rabidly anti-Amateur Radio.

Will the passage of the Legislation negatively impact real estate interests?

- No.
- This bill gives Hams the same privileges that were granted to homeowners in 1996 by Congressional action — the right to erect TV antennas, satellite TV dishes, and wireless internet antennas — and in 2005 by Congressional action — the right to erect free-standing flagpoles. The legislation merely extends those same rights to Hams.
- Twenty-nine years of the right of American homeowners to erect antennas and supporting masts, towers, and related equipment on the outside of their residences has proven the installation of antennas exterior to residences does not adversely affect the quality of life in the residential developments, safety, or home values.
- The legislation includes specific language preserving traditional regulation by national, state, county or city, building and zoning codes.

Why aren't we attempting to pass this Legislation state-by-state?

The Federal Communications Commission preempts the regulation and use of all radio frequencies. It is the reason that cellular telephone service, broadcast radio and television, satellite communications, GPS services, police, fire, and military communications are all regulated by the FCC. Amateur Radio has been a voluntary federal service since the Radio Act of 1927. Radio waves know no state boundaries. Homeowner TV and wireless internet antennas were granted relief from HOA restrictions in 1996 (47 CFR § 1.4000). Homeowners were granted relief from HOA restrictions against flag poles in 2005 (4 U.S.C. § 5 (note). Effective, uniform relief for Amateur Radio, will have to come at the Federal level.

Does this Legislation break contracts between community/HOA associations and homeowners?

- No.
- Private land use restrictions, also known as CC&Rs or deed restrictions are conditions that are impressed upon the land and are not subject to being removed by either private citizens or community associations. The documents that create these restrictions specifically prohibit the elimination of the restrictions by negotiation.
- Approximately 80% of new homes are constructed in developments that are burdened by deed restrictions that prohibit Hams from installing antennas on the outside of their residences. This means that it has become more and more difficult for a potential purchaser to find any alternative housing in newer neighborhoods with access to quality schools, which are close to places of employment and that have reasonable access to shopping. There are entire cities that are entirely HOA controlled. (Examples: The Villages, FL, and Foster City, CA – see *Hotz v. Rich*, 4 Cal.App.4th 1048 (1992).)
- Homeowners, contrary to the claims of the opponents to this legislation, cannot negotiate away the anti-Ham prohibitions.
- Private land use restrictions have been stricken by government on many occasions. Examples of CC&Rs that were declared unenforceable by state and federal law include:

- Prohibitions on the display of the American flag
- Prohibitions on the erection of free standing flag poles
- Prohibitions on the installation of solar panels
- Prohibitions on the installation of energy efficient roofing shingles
- Prohibitions on the installation of rainwater collection systems
- Prohibitions on the installation of composting
- Prohibitions on Xeriscaping (desert landscaping – little water)
- Prohibitions on the installation of certain types of turf
- Prohibitions on the presence of certain makes/models of automobiles
- Prohibitions on the installation of clotheslines
- Prohibitions on the right to display political signs
- Prohibitions on the installation of standby electric generators
- Prohibitions on the installation of satellite TV dishes (for TV and internet)
- Prohibitions on the installation of exterior WISP (Wireless Internet Service Provider) masts/towers, antennas
- Prohibitions on the installation of VHF/UHF TV masts, towers and antennas

Can community associations/HOAs grant variances from the recorded deed restrictions?

- **No.**
- As noted, the documents that create the restrictions prohibit the governing associations from modifying the restrictions, except by amending and rerecording the deed restrictions after approval of a super majority of the residents of the housing development.
- This was the reason Congress in 1996 ordered the FCC to create the OTARD (the "Over-The-Air-Reception-Device") rules that render unenforceable all restrictions on the installation of TV antennas, satellite dishes, and wireless internet antennas.

for Radio Clubs...

ARRL is also encouraging radio clubs to provide letters of support, and is urging each club officer to sign the letters. There are **instructions for clubs** (PDF) on how to complete the letter and a **sample letter for clubs** (DOCX) that should be customized with their information.

USA ATV REPEATER DIRECTORY

WA8RMC / KH6HTV revised June 2026

NOTES:
1. All analog repeaters are NTSC, VUSB-TV, 6 MHz channel, unless otherwise noted. Frequency listed is video carrier frequency.
2. Digital TV lists the center frequency and bandwidth.
3. All repeaters are "open" unless otherwise noted.
4. For details, go to the listed web site, or send an e-mail to the contact person

Location	Callsign	Output	Input	Sponsor	Web Site & Contact Info
ARIZONA	note: AZ is linked to W6ATN in S. CA & NV www.atn-tv.org				
Phoenix, White Tank	W7ATN	1253.25 5910 FM	434.AM 434 / 2 DVB-T 2441.5 FM	Amateur TV Network - AZ	White Tanks mtn linked to Tucson wb9kmo@gmail.com
Mesa	W7ATN	421.25 vsb 1289.25 vsb	434 AM 434 DVB-T 2441.5 FM	Amateur TV Network - AZ	wb9kmo@gmail.com
Tucson, Mt. Lemmon	W7ATN	1277.25vsb	434 AM 434 / 2 DVB-T 2441.5 FM	Amateur TV Network - AZ	Mt. Lemmon linked to Phoenix wb9kmo@gmail.com
CALIFORNIA					
Clayton	W6CX	1244.5/4 DVB-S	1292 DVB-S 1273 DVB-S2	Mt. Diablo Amateur Radio Club	Www.mdarc.org technical@mdarc.org
San Jose	W6SVA	427.25 AM	1255 FM	Silicon Valley Amateur TV	Www.w6sva.com W2NYC w2nyc@pacbell.net
Palm Springs	W6ATN	1242/4 DVB-T	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Snow Peak
High Desert	W6ATN	1253.25 VSB	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Jobs Peak
Santa Barbara	WB9KMO	1289.25 VSB	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Microwave linked to ATN-CA
Southern **CALIFORNIA**	Note: ATN is a microwave linked network of ATV repeaters covering the Los Angeles area of southern California and Las Vegas, NV ATN web site is: www.atn-tv.com contact is: WA6SVT wa6svt@gmail.com				
North Los Angeles	W6ATN	1242/4 DVB-T 3380 FM	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Oat Mtn.
Central Los Angeles	W6ATN	1267/6 DVB-T	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Mt. Wilson
Orange	W6ATN	1253.25 VSB 5910 FM	434 AM 434/2 DVB-T 2441.5 FM	Amateur Television Network	Santiago Peak
COLORADO					
Boulder	W0BTV	423 DVB-T 5905 FM (24/7)	441 DVB-T 1243 DVB-T 10380 DVB-T	Boulder Amateur TV Club	KH6HTV kh6htv@arrl.net ARES primary Www.kh6htv.com
Boulder County	W0BCR	423 DVB-T	435 DVB-T	Boulder County ARES	www.bouldercountyares.org K0ARK abishop1150@comcast.net
Boulder	WA0TQG	441 DVB-T 1255 DVB-T	1255 DVB-T 423 DVB-T	Private closed repeater	Directional 2 way yagi link from home qth to W0BTV rptr
DELAWARE					
Wilmington	KC3AM	423/2 DVB-T	430/2 DVB-T	KC3AM	KC3AM@verizon.net N3BFZ vvitullo@verizon.net
LOUISIANA					
New Orleans	WD0GIV	423 ATSC	439.25 VUSB 441 ATSC	WD0GIV	WD0GIVwd0giv@att.net

Location	Callsign	Output	Input	Sponsor	Web Site & Contact Info
MARYLAND					
Towson	W3BAB	421.25 VSB 1291 FM	434 VSB 439.25/2 DVB-T	Chesapeake Amateur TV Society	Www.qsl.net/w3bab/ w3babatv@gmail.com
Baltimore	W3WCQ	426.25 DVB-T	439.25 DVB-T	Baltimore Radio Amateur TV Society	https://bratsatv.org/ brats@bratsatv.org
MICHIGAN					
Jackson	KC8LMI	923.25 AM	439.25 AM,LSB 439 DVB-T	KC8LMI	kc8lmi@hotmail.com
MISSOURI					
Maryland Heights	W0ATN	426 DVB-T	440 DVB-T	St. Louis Amateur TV Society	Www.slatsatn.net K0PFX slats@melwhitten.com
NEVADA					
Las Vegas	N7ZEV	912 FM 1253.25 AM	434 VSB 434/2 DVB-T 2441.5 FM	Los Vegas Repeater Assoc WA7HXO	Mt. Potosi – microwave linked to ATN southern Calif. Repeater network N 7ZEV fkostelac@hotmail.com
Reno	W7TA	423/6 DVB-T	1243/6 DVB-T	Sierra Nevada Amateur Radio Society	Www.snars.org W6US w6us@snars.org
OHIO					
Dayton	W8BI	421.25 AM 428/2 DVB-T 1258 FM	439.25 AM 439/2 DVB-T 1280/2 DVB-T	Dayton Amateur Radio Assoc.	WWW.w8bi.org AH2AR ah2ar@arrl.net
Columbus	WR8ATV	423/2 DVB-T 427.25 VLSB 1258 FM 1268 DVB-S 2397 MESH 10350 FM	439/2 DVB-T 439.25 VSB 1288 FM 1288 DVB-S 10450 FM	Amateur TV in Central Ohio (ATCO)	Www.atco.tv WA8RMC art.towslee@gmail.com
OREGON					
Portland	WA7DRO	1253 FM	426.25 AM	Oregon Amateur TV Assoc.	Www.oregonatv.org WA7DRO belles73@comcast.net WB2QHS emellnik@emavideo.com
WASHINGTON					
Seattle	WW7ATS	1255/6 DVB-T	435.25/2 & 437.75/2 DVB-T	Western Washington Amateur TV Society	Www.qsl.net/ww7ats/ W7ITL w7itl.usa@gmail.com

Revisions:

1. Original published KH6HTV 20 Feb. 2026
2. New Orleans, LA – WD0GIV & Portland, OR - WA0DRO added. 2/25/26
3. Mt. Diablo - W6CX, updates, 3/1/26
4. Baltimore, MD – W3WCQ added 3/7/26
5. Jackson, MI - KC8LMI added 4/5/26
6. Major revisions and alignments – WA8RMC 6/27/26

LOCAL HAMFEST SCHEDULE

This section is reserved for upcoming Hamfests. They are limited to Ohio and vicinity easily accessible in one day. Anyone aware of an event incorrectly or not listed here; notify me so it can be corrected. This list will be amended, as further information becomes available. To see additional details for each Hamfest, Control Click on the blue title and the magic of the Internet will give you the details complete with a map! To search the ARRL Hamfest database for more details, CTL click ARRLWeb: Hamfest and Convention Calendar …WA8RMC.

07/19/2026 - Van Wert Hamfest
Location: Van Wert, OH
Type: ARRL Hamfest
Sponsor: Van Wert Amateur Radio Club

08/01/2026 - 2026 Columbus Ham Fest
Location: Grove City, OH
Type: ARRL Hamfest
Sponsor: Aladdin Shrine Audio Unit
Website: http://www.columbushamfest.com

08/15/2026 - Cincinnati Hamfest℠ , ARRL Great Lakes
Location: Owensville, OH
Type: ARRL Convention
Sponsor: Milford Amateur Radio Club
Website: https://cincinnatihamfest.org/

08/16/2026 - Warren Hamfest
Location: Cortland, OH
Type: ARRL Hamfest
Sponsor: Warren Amateur Radio Association
Website: http://w8vtd.com/hamfest

08/22/2026 - Portsmouth Radio Club 2026 Hamfest
Location: Wheelersburg, OH
Type: ARRL Hamfest
Sponsor: ARRL, Jett Fire Equipment, Shawnee Computer,1776 Guns a
Website: https://www.portsmouthradioclub.com

09/13/2026 - Findlay Hamfest
Location: Findlay, OH
Type: ARRL Hamfest
Sponsor: Findlay Radio Club
Website: http://findlayradioclub.org

09/27/2026 - Cleveland Hamfest
Location: Berea, OH
Type: ARRL Hamfest
Sponsor: Hamfest Association of Cleveland
Website: https://www.HAC.org

10/03/2026 - Northwest Ohio Amateur Radio Club 2026
Location: Elida, OH
Type: ARRL Hamfest
Sponsor: Northwest Ohio Amateur Radio Club (NWOARC)
Website: http://www.nwoarc.com

10/10/2026 - Williams County ARA Hamfest
Location: Montpelier, OH
Type: ARRL Hamfest
Sponsor: WCARA
Website: http://ka8ofe.weebly.com

10/11/2026 - Ashland Trunkfest
Location: Ashland, OH
Type: ARRL Hamfest
Sponsor: Ashland Area Amateur Radio Club
Website: https://www.n8ihi.org/

11/01/2026 - 2026 Massillon ARC Hamfest at MAPS
Location: N. Canton, OH
Type: ARRL Hamfest
Sponsor: Massillon Amateur Radio Club
Website: http://w8np.net

11/07/2026 - Georgetown / Grant ARC Hamfest
Location: Georgetown, OH
Type: ARRL Hamfest
Sponsor: Grant Amateur Radio Club
Website: https://grantamateurradioclub.yolasite.com/

11/21/2026 - Fort Wayne Hamfest & Computer Expo
Location: Fort Wayne, IN
Type: ARRL Hamfest
Sponsor: Allen County Amateur Radio Technical Society
Website: https://www.fortwaynehamfest.com/

ATCO TREASURER REPORT - de N8NT

OPENING BALANCE (4/20/26)……..……..……..…$4058.94
CLOSING BALANCE (7/20/26)……..$ 4058.94

ATCO CLUB OFFICERS

President: Art Towslee WA8RMC
V. President: Ken Morris W8RUT
Treasurer: Bob Tournoux N8NT
Newsletter editor: Art Towslee WA8RMC
Secretary: Mark Cring N8COO
Corporate trustees: Same as officers

Repeater trustees: Art Towslee WA8RMC
Ken Morris W8RUT

ATCO publishes this Newsletter quarterly in January, April, July and October. It is sent to each member without additional cost. All Newsletters are sent via Email.
Your support of ATCO is welcomed and encouraged.

ATCO REPEATER TECHNICAL DATA SUMMARY

(shown here in concise form. See ATCO home page for a different format)

Location:	Downtown Columbus, Ohio
Coordinates:	39 degrees 57 minutes 47 seconds (latitude) 82 degrees 59 minutes 58 seconds (longitude)
Elevation:	630 feet above average street level of 760 feet ASL (1390 feet above sea level)
TV Transmitters:	423.00 MHz DVB-T, 10W FEC=7/8, Guard=1/32, Const=QPSK, FFT=2K, BW=2 MHz, PMT=4095, PCR=256, Vid=256, Aud=257
	427.25 MHz Analog VSB AM, 50 watts average 100 watts sync tip (cable channel 58)
	1258 MHz 40 watts FM analog
	1268 MHz DVB-S QPSK 20W SR=3.125MS, FEC=3/4, PMT=32, Video=162, Teletext=304, PCR=133, Audio=88, Service =5004)
	Two video channels on this output: Channel 1 is fed from all receivers. Channel 2 is fed from 439.25 analog receiver.
	2397 MHz Mesh Net transceiver 600 mw output (channel 1 minus 2). ID is WR8ATV-2
	10.350 GHz: 1W continuous analog FM
Link transmitter:	446.350 MHz: 5W NBFM 5 kHz audio. This output used for control signals & to repeat 147.48 MHz and 449.975 MHz input.
Identification:	423, 427, 1258, 1268 MHz, 10.350 GHz transmitters video ID every 10 min. with active video.
	423 MHz DVB-T, 1268 MHz DVB-S & 10.350 GHz FM - Continuous Tx of ATCO & WR8ATV with input signal present.
Transmit antennas:	423.00 HHz - Single slot rib cage horizontally polarized 5 dBd gain "omni"
	427.25 MHz - Dual slot horizontally polarized 7 dBd gain "omni" major lobe east/west, 5 dBd gain north/south
	1258 MHz - Diamond vertically polarized 12 dBd gain omni
	1268 MHz - Diamond vertically polarized 12 dBd gain omni
	2397 MHz - Ubiquiti dual polarity omni 13dBi gain slot for channel 1 minus 2 MESH Rx/Tx operation
	2397 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni (Used for experimental Mesh operation)
	10.350 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni
Receivers:	147.480 MHz - F1 audio input with touch tone control. (Input here = output on 446.350)
	439.000 MHz - DVB-T QPSK, 2MHz BW. Receiver will auto configure for FEC's. (Input here = output on all TV transmitters)
	439.250 MHz - A5 NTSC video with FM subcarrier audio, Upper sideband. (Input here = output on all TV transmitters & also direct output to 1268 MHz DVB-S output channel 2.)
	449.975 MHz - F1 audio input aux touch tone control. 131.8 Hz PL tone. (Input here = output on 446.350).
	1288.00 MHz - F5 video analog NTSC. (Input here = output on all TV transmitters)
	1288.00 MHz - DVB-S QPSK SR=4.167MS, fec=7/8. PIDs: PMT=133, PCR=33, Vid=33, Aud=49 (In here=out on all Transmit.)
	10.450 GHz - F5 video analog NTSC. (Input here = output on all TV transmitters)
Receive antennas:	147.480 MHz - Vert. polar. Diamond 6 dBd dual band (Shared with 446.350 MHz link output transmitter)
	439.00/439.250 MHz - Horizontally polarized dual slot 7 dBd gain major lobe west (Shared with 439 digital & 439.25 analog receivers)
	1288.00 MHz - Diamond vertically polarized 12 dBd gain omni (shared with analog and DVB-S receivers)
	2398.00 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni (inactive at this time because MESH is on 2397)
	10.450 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni

Auto mode Input control:	Touch Tone	Result (if third digit is * function turns ON, if it is # function turns OFF)
	00*	turn transmitters **on** (enter manual mode-keeps transmitters on till 00# sequence is pressed)
	00#	turn transmitters **off** (exit manual mode and return to auto scan mode)
	264	Select Channel 4 Doppler radar. (Stays on for 5 minutes) Select # to shut down before timeout.
	004	Select 10.450 GHz receiver. **(Always exit by selecting 001)**
	001	Select 2398 MHz receiver then 00# for auto scan to continue

Manual mode Functions:		
	00* then 1 for Ch. 1	Select 439.25 analog /439 digital (if video on digital, it is selected. Otherwise, analog)
	00* then 2 for Ch. 2	Select 1288 digital receiver
	00* then 3 for Ch. 3	Select 1288 analog receiver
	00* then 4 for Ch. 4	Select 2398 receiver
	00* then 5 for Ch. 5	Select video ID (17 identification screens)
	01* or 01#	Channel 1 439.25 MHz analog /439 digital rec. scan enable (01* to enable & 01# to disable)
	02* or 02#	Channel 2 1288 MHz digital receiver scan enable
	03* or 03#	Channel 3 1288 MHz analog receiver scan enable
	04* or 04#	Channel 4 2398 MHz scan enable
	A1* or A1#	Manual mode select for 439.25 receiver audio
	A2* or A2#	Manual mode select for 1288 digital receiver audio
	A3* or A3#	Manual mode select for 1288 analog receiver audio
	A4* or A4#	Manual mode select for 2398 receiver audio
	C0* or C0#	Beacon mode – transmit ID for twenty seconds every ten minutes
	C1* or C1#	No function at this time
	C2* or C2#	No function at this time